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(54)PHASE LOCKED SEMICONDUCTOR
LASER OPTICAL SYSTEM

(57)Abstract:

PURPOSE: To minimize the energy loss of oscillated laser light so that a sharp spot can be formed by forming a distinct far field pattern and separating lobes therefrom, then synthesizing the lobes so as to overlap on each other.

CONSTITUTION: The distinct far field pattern is formed by using the Fourier transform capacity of a 1st lens 16 and after the lobes are separated, the lobes are so synthesized that the lobes overlap on each other. Since from a total reflecting mirror 26 which is a separating means to a synthesizing means are so provided as to have an equal optical length, the deviations of the spots of the respective lobes to be imaged in the optical axis direction are eliminated. The near field pattern and far field pattern are alternately relayed by using the Fourier transform capacity of the lens even after the sepn. of

the lobes. The distinctly synthesized far field pattern is, therefore, formed to the focal point after the transmission through the 2nd lens 22. The energy loss of the laser light having the two lobes is thereby minimized and the distinct spot is imaged.

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